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Association between social inhibition, mood and worry, self-reported oral health status and oral health-related behaviours



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KEY WORDS *mood, oral health, positive affect, social inhibition, worry*

Aim: The aim of the present study was to determine the association of social inhibition, mood, and worry with participants' self-rated oral health and oral health-related behaviours.

Study design: First-year medical students ($n = 178$) completed a survey that included questions on socio-demographic factors, behavioural variables, and self-reported oral health status. Students were also asked to complete the social inhibition subscale of the Type-D Scale (DS14), the Global Mood Scale, and the Worry Domains Questionnaire.

Results: Significant differences were found for social inhibition, worry and positive affect according to self-rated oral health, number of extracted teeth and satisfaction with appearance of own teeth ($p < 0.05$). The results showed that mean levels of negative affect in individuals with poor/very poor perceived dental and gingival condition were higher than, but not statistically different from, those of individuals with self-rated good/very good/excellent dental and gingival health (18.00 ± 11.79 vs. 11.71 ± 6.49 and 16.00 ± 10.23 vs. 11.77 ± 6.41). Students with higher social inhibition or worry and lower in positive affect scores were more likely to brush their teeth once or less per day, never to use dental floss, to have last visited their dentist more than two years previously and then mainly when treatment was needed or when pain occurred.

Conclusions: The results suggest that social inhibition, positive affect and worry are psychosocial risk markers that influence self-reported oral health status and behaviour and should be considered in the clinical dental setting.

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■ Introduction

In recent years, intensive research has been directed towards identifying risk factors that predispose individuals to behaviours that could be dangerous to their health^{1,2}. Knowledge of these risk factors is

also important for dental health and the success of dental treatment, with the understanding of aspects that influence participants' dental behaviours being instrumental in improving compliance and ultimately dental health outcomes. Personality factors may play a key role in explaining individual differences in



health behaviours, with impulsivity, psychoticism, neuroticism, anxiety, and hostility having been associated with risky behaviours, while conscientiousness, agreeableness, optimism, hardiness, and self-efficacy have been shown to predict health-promoting behaviours^{1,3}.

Social isolation is a function of individual differences in behavioural inhibition⁴ and the trait 'social inhibition' refers to the tendency to inhibit the expression of emotion and behaviour in social interaction⁵. Inhibited individuals expect negative reactions from others and tend to be socially isolated. Social isolation may potentiate the adverse effect of negative emotions. Examination of the literature shows that post-myocardial infarction patients with high levels of both stress and social isolation had four times the risk of death when compared with patients with low levels of stress/isolation⁶; a recent study of mortality in the elderly also found that isolation aggravates the adverse effect of negative emotions⁷. Preliminary evidence suggests that social inhibition may also affect the clinical course of patients who have been treated with percutaneous coronary intervention⁸. Social inhibition may also impede communication between patient and physician and result in the under-treatment of psychological stress, which could be potentially damaging to health⁹. There is evidence that the socially inhibited are less likely to adhere to treatment¹⁰ or to engage in health-promoting behaviour¹¹.

Worrying, which is a cardinal feature of anxiety-based conditions, may be another important determinant of health-related behaviours^{12,13}. Worry has been associated with increased frequency of work absenteeism and medical consultations, psychological distress (e.g. anxiety and depression) and somatic disease (e.g. heart disease, diabetes, and cancer)^{14,15}. However, a number of important studies on oral health behaviours have revealed that anxiety, depression and stress were related to the practice of oral hygiene behaviours¹⁶⁻²⁷.

The terms positive affect (PA) and negative affect (NA) are not considered as opposites, but as distinctive dimensions, with high PA a state of high energy, full concentration and pleasurable engagement and low NA a state of calmness and serenity²⁸. Negative affectivity has been described as a general disposition to experience negative mood states, and has been

found to be consistently negatively related to oral health-related quality of life^{28,29}.

The aim of this study was to examine the influence of social inhibition, mood, and worry on self-rated oral health and oral health-related behaviours in a population of first-year medical students.

■ Study design

■ Study population

The participants of the study were 178 first-year medical students at the Faculty of General Medicine, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania (72.5% females; mean age 19.1 ± 1.6), who were randomly asked to complete a survey at the beginning of the academic year 2006/2007. All students selected for the survey consented to participate (100% response rate) and provided written informed consent.

■ Clinical variables

A structured, anonymous questionnaire in Romanian was used in this study, which addressed the following factors. (1) Socio-demographic factors: age, gender and smoking habits. (2) Perceived oral health status: dental health, non-treated caries, satisfaction with appearance of own teeth, dental pain, gingival condition, and gum bleeding. (3) Oral health habits: tooth brushing, flossing, mouthrinse frequency, dental visit frequency, and reasons for dental visits³⁰⁻³². Participants were classified as smokers, past-smokers or never smokers.

■ Social inhibition

The participant's level of inhibition was assessed with the "social inhibition" subscale of the Type D Personality Scale (DS14)³³. This subscale measures the tendency to inhibit the expression of emotion/behaviour in order to avoid negative reactions from others, such as disapproval. High scorers tend to feel inhibited, tense, and insecure when with others. Each of the seven inhibition items (e.g. "I am a closed kind of person", "I often feel inhibited in social interactions") is rated on a five-point Likert scale (0-4). The



subscale is valid, internally consistent (Cronbach's $\alpha = 0.86$), and stable over a 3-month period (test-retest $r = 0.82$). According to a previously established cut-off, patients scoring 10 are considered high in inhibition³³.

■ Mood status

The 20-item Global Mood Scale (GMS) was used to evaluate mood status, defined as NA and PA¹⁴. Each subscale consists of 10 items that are answered on a five-point Likert scale ranging from 0 (false) to 4 (true). A high score on both subscales indicates more affect. Both the NA and PA subscales of the GMS are internally consistent; i.e. Cronbach's $\alpha = 0.90$ and $\alpha = 0.9034$, $\alpha = 0.94$ and $\alpha = 0.9335$, respectively. In the present study, the internal consistency of the NA and PA subscales of the GMS were good, with Cronbach's $\alpha = 0.86/0.85$.

■ Worry

The Worry Domains Questionnaire (WDQ)³⁶ was developed to assess the presence and degree of non-pathological worry, i.e. worry as experienced by individuals free of psychopathology across five domains: relationships (e.g. "I will lose close friends"), lack of confidence (e.g. "I feel insecure"), aimless future (e.g. "I'll never achieve my ambitions"), work incompetence (e.g. "I make mistakes at work"), and financial (e.g. "My money will run out"). Research has demonstrated that the WDQ shows high reliability and substantial validity³⁷. The internal consistency, as assessed by Cronbach's α , is usually above 0.90 and the test-retest stability across 4 weeks $r = 0.8537$. With 25 items, however, the WDQ is somewhat lengthy. Therefore, a 10-item short form (WDQ-SF) was used in the present study. Items are answered on a five-point Likert scale from 0 (not at all) to 4 (extremely), with a high score indicating more worrying. The WDQ-SF total score has shown a Cronbach's $\alpha = 0.89$ and a correlation of $r = 0.97$ with the original WDQ³⁸. The psychometric properties of the WDQ-SF in the present study was good with Cronbach's $\alpha = 0.82$. The intensity of worry correlated significantly with both NA ($r = 0.25$, $p = 0.0009$) and PA ($r = 0.34$, $p < 0.0001$) of the GMS. In the present study, a Romanian translation of the

DS14, GMS and WDQ was used. In order to establish full congruity between the Romanian and English versions, the Romanian version was back-translated into English and tested for inconsistencies.

■ Statistical analysis

Descriptive statistics and statistical analyses were performed with the computerised statistical package (SPSS 13.0, Inc., Chicago, USA) software. The internal consistency of the scales was examined using Cronbach's α . Descriptive statistics were used on all variables. The difference among the groups was examined with ANOVA test with post-test and with *t*-test between two groups as appropriate. Multiple linear regression analyses were performed utilising age, sex, social inhibition, worry, positive and negative affect as independent variables in the study group. All reported *p*-values are two-tailed; moreover, those *p*-values less than 0.05 were considered statistically significant.

■ Results

■ Descriptive data and group differences

On the whole, the questions were answered very conscientiously. There were not more than 0.5–2% missing answers for any questions, resulting in excellent completion rates for each of the subscales. Women scored significantly higher than men on worry (11.72 ± 6.46 vs. 9.52 ± 6.05 , $p < 0.05$) and negative affect (13.20 ± 7.11 vs. 10.96 ± 6.29 , $p = 0.054$) but lower on positive affect (23.83 ± 6.29 vs. 25.92 ± 6.25 , $p < 0.05$). Significant differences were also noted between gender according to tooth brushing, flossing and last dental visit frequency ($p < 0.05$). Only 1.7% of the students felt that their current oral health was poor, despite the fact that 43.8% of them reported to have current non-treated caries, 18.0% had current extracted teeth (other than the third molars) and 25.3% had also experienced dental pain in the last 3 months. Of the students, 96.6% characterised their gingival status as "normal to excellent", irrespective of perceived signs of gingival inflammation; 70.2% of the students reported one or more gingival symptoms, such as bleeding gums

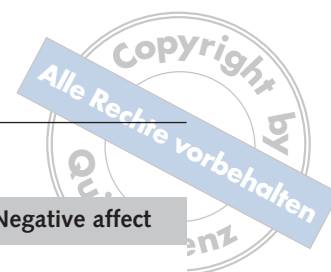


Table 1 Comparison of social inhibition, mood, and worry scales (mean ± SD) according to self-reported oral-health status.

	Social inhibition	Worry total	Positive affect	Negative affect
Perceived dental health				
Poor/very poor	15.00 ± 2.00	26.00 ± 4.35	18.66 ± 6.11	18.00 ± 11.78
Normal	7.61 ± 4.59	11.89 ± 6.22	22.81 ± 6.63	13.88 ± 7.37
Good/very good	7.95 ± 5.55	10.56 ± 6.05	25.15 ± 5.91	11.73 ± 6.44
Excellent	2.25 ± 1.89	4.00 ± 1.82	31.54 ± 4.98	11.00 ± 8.86
p-value	p < 0.05	p < 0.0001	p = 0.004	NS
Current non-treated caries				
Yes	7.75 ± 5.10	12.17 ± 6.78	23.41 ± 6.66	13.09 ± 7.15
No	7.82 ± 5.44	10.28 ± 6.00	25.18 ± 5.99	12.18 ± 6.80
p-value	NS	p = 0.051	NS	NS
Current extracted teeth (other than the third molars)				
Yes	7.27 ± 4.13	11.65 ± 6.07	25.07 ± 6.29	12.27 ± 5.76
No	7.90 ± 5.50	10.99 ± 6.49	24.26 ± 6.35	12.65 ± 7.20
p-value	NS	NS	NS	NS
Satisfaction by appearance of own teeth				
Yes	7.59 ± 5.61	10.22 ± 6.19	25.40 ± 5.56	11.88 ± 6.66
No	8.09 ± 4.90	12.16 ± 6.54	23.26 ± 6.98	13.42 ± 7.23
p-value	NS	p < 0.05	p < 0.05	NS
Dental pain last time				
Do not remember	7.78 ± 5.35	10.74 ± 6.45	24.67 ± 6.30	11.78 ± 7.14
More than a year ago	7.37 ± 5.16	10.93 ± 6.52	26.08 ± 4.92	11.83 ± 5.21
During last year	8.59 ± 6.40	10.76 ± 5.56	23.57 ± 6.99	14.72 ± 7.10
During last 3 months	7.58 ± 4.28	10.96 ± 6.58	22.66 ± 6.83	13.40 ± 8.11
Last week	7.69 ± 6.00	13.69 ± 6.18	24.84 ± 6.98	13.46 ± 6.21
p-value	NS	NS	NS	NS
Self-evaluation of gingival condition				
Poor/very poor	7.03 ± 3.17	12.25 ± 6.75	26.75 ± 8.05	16.00 ± 10.23
Normal	7.11 ± 4.64	12.28 ± 6.64	23.13 ± 6.84	14.27 ± 7.68
Good/very good	8.29 ± 5.56	10.89 ± 6.21	24.35 ± 5.80	11.95 ± 6.40
Excellent	6.18 ± 5.51	7.54 ± 6.54	30.00 ± 6.16	9.90 ± 6.47
p-value	NS	NS	p = 0.01	NS
Gingival bleeding				
Yes	7.82 ± 5.35	11.45 ± 6.94	24.19 ± 6.93	13.03 ± 7.78
No signs	7.76 ± 5.22	10.74 ± 5.77	24.65 ± 5.62	12.07 ± 5.88
p-value	NS	NS	NS	NS

NS, not significant



when brushing their teeth, spontaneous bleeding from the gums, pain from the gums, change in colour of the gums or swollen gums, recession and tooth mobility. For tooth brushing, 85.4% of the students brushed twice a day or more. Other oral hygiene aids were used more than once a week: dental floss by 15.3% and mouthrinse by 25.4%. For dental visits, 85.2% of students were regular users of the dental-care system (i.e. they had at least one dental visit in the last 2 years) and 24.4% had seen the dentist in the last month.

■ Association of factors with self-rated oral health status and health behaviours

Significant differences were found for social inhibition, worry and positive affect according to self-rated oral health and satisfaction by appearance of own teeth, number of extracted teeth and satisfaction with appearance of own teeth ($p < 0.05$) (Table 1). The results showed that mean levels of NA in individuals with poor/very poor perceived dental and gingival condition were higher than, but not statistically different from, those of individuals with self-rated good/very good/excellent dental and gingival health (18.00 ± 11.79 vs. 11.71 ± 6.49 and 16.00 ± 10.23 vs. 11.77 ± 6.41).

In order to assess the relationship between social inhibition, worry, PA and NA and oral health-related behaviours, several outcome variables were used: tooth brushing, flossing, mouthrinse frequency and pattern of dental visit (Table 2). Students with higher social inhibition or worry and lower PA scores were more likely to brush their teeth once or less than once per day, never to use dental floss, to visit their dentist more than 2 years ago and mainly when treatment is needed or when pain occurs.

The multiple linear regression analyses showed, for self-rated oral and gingival health status as dependent variable, a strong association with worry, social inhibition and NA (Table 3). The models were well fitted to the data ($R^2 = 11.4\%$, $F = 3.586$, $p = 0.002$ and respectively for gingival status $R^2 = 12\%$, $F = 3.809$, $p = 0.001$). The flossing frequency was associated with gender and positive affect ($R^2 = 7.9\%$, $F = 2.403$, $p = 0.03$), while the dental visit pattern was significantly influenced by gender and worry ($R^2 = 9.6\%$, $F = 2.935$, $p = 0.01$).

■ Discussion

To our knowledge, this is the first study to examine the influence of social inhibition, worry and positive affect as determinants of self-reported oral health status and behaviour. Students with higher social inhibition or worry and lower PA scores were more likely to evaluate their oral health as poor/very poor, to be less satisfied by appearance of their own teeth, to have more extracted teeth, to brush their teeth once or less than once per day, never to use dental floss, to have visited their dentist more than 2 years ago, and mainly visit when treatment is needed or when pain occurs.

Self-rated oral health is a useful summary measure of people's oral health that has been shown to predict future oral health outcomes. In line with the present findings, previous studies have shown that oral health status and behaviours are associated with self-rated general health and various psychological traits, including self-esteem, quality of life (especially in the elderly), life satisfaction, self-efficacy, optimism, sense of coherence, anxiety, depression, locus of control, stress, cynical hostility and psychological well-being^{29,39,40}. Individuals higher in negative affectivity consistently report worse self-perceived health and more symptoms, particularly mental health and somatic complaints, although the association between NA and objectively assessed health status is neither strong nor consistent²⁹. The findings of the current study underscore the importance of understanding the individual who is reporting about their oral health. Individuals who tend to view things positively, who are not distressed and worry about things in general are more likely to report better self-rated oral and gingival health.

The present study has a number of limitations. First, the cross-sectional design of the study does not allow for determination of cause and effect. Secondly, the number of participants was relatively small, which limits generalisation of the results and the number of variables that could be controlled for in statistical analyses. Thirdly, our sample included only first-year medical students. These students are relatively well educated and more affluent, and therefore may have access to better quality dental care. Hence, the generalisability of our findings should be confirmed in other populations. Fourthly,

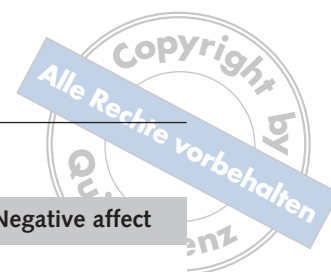


Table 2 Comparison of social inhibition, mood, and worry scales (mean ± SD) according to self-reported oral-health habits.

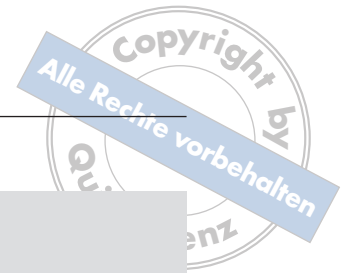
	Social inhibition	Worry total	Positive affect	Negative affect
Daily tooth brushing frequency				
Once a day or less	9.95 ± 5.24	11.04 ± 5.83	23.74 ± 4.58	12.60 ± 5.22
Twice a day	7.31 ± 5.17	11.44 ± 6.75	23.86 ± 6.76	12.76 ± 7.45
More than twice a day	7.67 ± 5.35	10.39 ± 5.95	26.04 ± 5.98	12.16 ± 6.70
p-value	NS	NS	NS	NS
Flossing frequency				
Never	7.62 ± 5.00	10.46 ± 6.30	24.18 ± 6.36	12.55 ± 6.65
Once a month	7.19 ± 5.52	12.93 ± 6.59	22.75 ± 6.52	13.31 ± 7.88
Once a week	7.38 ± 6.56	13.72 ± 7.56	24.51 ± 5.75	14.03 ± 7.72
More than once a week	8.94 ± 5.29	11.76 ± 5.13	25.01 ± 4.77	11.77 ± 7.41
Everyday	8.77 ± 6.03	9.66 ± 6.96	28.55 ± 8.91	9.33 ± 6.46
p-value	NS	p < 0.05	p < 0.05	NS
Mouthrinse frequency				
Never	7.66 ± 4.88	10.20 ± 6.08	24.41 ± 6.98	12.47 ± 6.99
Once a mouth	7.47 ± 5.54	13.39 ± 6.51	23.74 ± 4.47	12.40 ± 6.83
Once a week	9.04 ± 6.25	12.22 ± 5.17	23.45 ± 3.93	12.56 ± 5.20
More than once a week	8.70 ± 5.56	13.61 ± 8.72	26.29 ± 6.65	15.52 ± 8.00
Everyday	6.71 ± 5.50	10.85 ± 6.36	24.52 ± 5.84	11.20 ± 7.22
p-value	NS	NS	NS	NS
Last dental visit				
More than 2 years ago	7.06 ± 4.29	8.57 ± 5.40	23.66 ± 6.43	12.46 ± 6.42
1–2 years ago	7.46 ± 4.33	9.60 ± 4.67	24.01 ± 6.78	12.14 ± 6.67
6–12 months ago	9.81 ± 6.52	12.65 ± 7.26	22.82 ± 7.51	13.93 ± 8.26
Less than 6 months ago	8.06 ± 5.00	11.81 ± 6.76	25.53 ± 5.41	13.50 ± 6.86
Last month	6.02 ± 4.76	11.27 ± 6.27	25.46 ± 5.60	10.87 ± 6.24
p-value	p < 0.05	NS	NS	NS
Reasons for a dental visit				
For check-up or for tooth cleaning and scaling	7.17 ± 5.36	10.87 ± 5.95	25.01 ± 5.65	12.13 ± 6.91
When treatment is needed or when pain occurs	8.53 ± 5.14	11.35 ± 6.78	23.65 ± 7.09	13.27 ± 7.12
Never	6.00 ± 5.65	7.71 ± 4.34	26.43 ± 1.45	9.20 ± 5.26
p-value	NS	NS	NS	NS

NS, not significant

Table 3 Independent determinants of self-reported oral health status, gingival status and oral health behaviours.

Variable	Predictors	B	SE	t	P	CI
Self-rated oral health status	Age	-0.010	0.041	-0.244	0.807	-0.091 – 0.071
	Gender	-0.063	0.135	-0.465	0.643	-0.329 – 0.204
	Social inhibition	0.000	0.013	0.014	0.989	-0.025 – 0.026
	Worry–total	-0.028	0.010	-2.793	0.006	-0.048 – -0.008
	Positive affect	0.022	0.012	1.915	0.057	-0.001 – 0.045
	Negative affect	-0.004	0.010	-0.379	0.705	-0.024 – 0.016
Self-rated gingival status	Age	-0.036	0.046	-0.780	0.436	-0.126 – 0.055
	Gender	-0.089	0.159	-0.560	0.576	-0.402 – 0.225
	Social inhibition	0.035	0.015	2.294	0.023	0.005 – 0.065
	Worry–total	-0.026	0.012	-2.210	0.028	-0.050 – -0.003
	Positive affect	0.037	0.014	2.691	0.008	0.010 – 0.064
	Negative affect	-0.011	0.012	-0.929	0.354	-0.034 – 0.012
Tooth brushing frequency	Age	-0.027	0.032	-0.864	0.389	-0.090 – 0.035
	Gender	0.307	0.110	2.783	0.006	0.089 – 0.524
	Social inhibition	-0.004	0.011	-0.337	0.737	-0.024 – 0.017
	Worry–total	-0.004	0.008	-0.434	0.665	-0.020 – 0.013
	Positive affect	0.015	0.009	1.596	0.112	-0.004 – 0.034
	Negative affect	0.002	0.008	0.265	0.791	-0.014 – 0.018
Flossing frequency	Age	0.021	0.062	0.341	0.733	-0.102 – 0.144
	Gender	0.542	0.216	2.507	0.013	0.115 – 0.969
	Social inhibition	0.040	0.021	1.937	0.054	-0.001 – 0.082
	Worry–total	0.017	0.016	1.027	0.306	-0.015 – 0.048
	Positive affect	0.043	0.019	2.267	0.025	0.005 – 0.080
	Negative affect	-0.010	0.016	-0.605	0.546	-0.042 – 0.022
Mouthrinse frequency	Age	0.050	0.079	0.630	0.530	-0.106 – 0.205
	Gender	0.307	0.275	1.115	0.266	-0.237 – 0.851
	Social inhibition	0.004	0.026	0.168	0.867	-0.048 – 0.056
	Worry–total	0.025	0.020	1.218	0.225	-0.015 – 0.065
	Positive affect	0.012	0.024	0.520	0.604	-0.034 – 0.059
	Negative affect	-0.012	0.020	-0.577	0.565	-0.052 – 0.029
Last dental visit	Age	-0.005	0.066	-0.081	0.936	-0.136 – 0.125
	Gender	0.661	0.234	2.828	0.005	0.199 – 1.122
	Social inhibition	0.000	0.022	-0.016	0.988	-0.044 – 0.044
	Worry–total	0.035	0.017	2.035	0.043	0.001 – 0.070
	Positive affect	0.034	0.020	1.723	0.087	-0.005 – 0.073
	Negative affect	-0.018	0.017	-1.025	0.307	-0.051 – 0.016
Pattern of dental visit	Age	-0.032	0.064	-0.501	0.617	-0.158 – 0.094
	Gender	-0.003	0.226	-0.012	0.991	-0.448 – 0.443
	Social inhibition	-0.010	0.021	-0.448	0.655	-0.052 – 0.033
	Worry–total	-0.002	0.017	-0.121	0.903	-0.035 – 0.031
	Positive affect	0.006	0.020	0.312	0.755	-0.033 – 0.045
	Negative affect	-0.005	0.017	-0.287	0.774	-0.038 – 0.028

Bold font denotes statistical significance



APPENDIX 1

Age _____

Are you Male Female

Are you Non-smoker Smoker Past-smoker

Perceived dental health

Excellent Very good
 Good Normal Poor/very poor

In your opinion, do you have caries in your teeth at the moment? Yes No

Are you satisfied by the appearance of your teeth? Yes No

Do you have teeth extracted at this moment (other than third molars)? Yes No

When did you last notice a toothache?

Last week During last 3 months During last year
 More than a year ago Do not remember

How would you evaluate your gingival condition?

Excellent Very good Good Normal Poor/very poor

Do you personally experience that you have one or more of the problems or troubles listed below?

Bleeding gums when brushing the teeth Spontaneous bleeding from the gums
 Pain from the gums Change in colour of the gums Swollen gums
 Recession Tooth mobility

How often do you brush your teeth?

More than twice a day Twice a day Once a day
 Less than once a day Never

How often do you floss your teeth?

Everyday More than once a week Once a week
 Once a month Never

How often do you use mouthrinse?

Everyday More than once a week Once a week
 Once a month Never

Last dental visit was

Last month Less than 6 months ago 6–12 months ago
 1–2 years ago More than 2 years ago

Reasons for last dental visit were

For check-up For tooth cleaning and scaling
 When treatment is needed When pain Never

Do you feel anxious in your daily life?

No, never Yes, sometimes Yes, often

Did you feel stressed in the last month?

No, never Yes, sometimes Yes, often

Do you feel depressed in your daily life?

No, never Yes, sometimes Yes, often



assessments were based on self-report, with the risk that participants provide socially desirable rather than actual answers.

Despite these limitations, the present study is the first to investigate the role of social inhibition, mood, and worry related to self-reported oral health status and behaviour. Moreover, the study was based on an unselected group of participants.

In conclusion, individuals who tend to view things positively, who are not affected by social inhibition and worry about things in general are more likely to report better self-rated oral and gingival health, to be more satisfied by the appearance of their own teeth, to brush their teeth more than twice per day, to use daily dental floss and mouthrinses, to visit their dentist more frequently and mainly when for check-up or for tooth cleaning and scaling. These findings suggest that better self-rated oral and gingival health alone may reflect an individual's disposition to view many things positively. Also the results underscore the importance of focusing on psychological determinants in attending to people's perceptions of their oral and gingival health and to encourage them to adhere to dental health behaviours.

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